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## **The Last Frontier for Giant Petroleum Systems in the Brazilian Marginal Basins**

The petroleum system(s) that have resulted in giant oil accumulations along the deep to ultra-deepwater of the Brazilian Marginal basins appear to be poorly understood, despite nearly one decade of exploration. In most of these areas, exploration is just starting, since intensive offshore ultra deep-water exploration has just begun with the opening of exploration activities to multinational oil companies.

In the last two years, most of the wells drilled offshore deep-water Brazil have resulted as dry or subcomercial. On the other hand, petroleum system data suggest that similar tectonic-stratigraphic evolution, organic-rich facies and oil types are found across the South Atlantic petroleum provinces, allowing the application of a unified model for hydrocarbon provenance in counterpart basins. Such similarities, when interpreted in a paleogeographic context, can help to reveal details of unexplored deep to ultra-deepwater petroleum systems in the Brazilian basins.

This study, based on an integrated multidisciplinary approach, suggests the Santos and Esp'rito Santo, after the Campos basin, as the most promising oil/ gas-prone provinces in the Brazilian continental margin. Throughout the tectonic-stratigraphic framework, regional facies variations of Lower/ Upper Cretaceous and Tertiary source rocks are consistent with prolific deep to ultra-deepwater petroleum systems successfully drilled in the other side of the Atlantic in the last two years. The origin of the potential hydrocarbon accumulations to be found in the Santos and Esp'rito Santo basins, is related to anoxic events in the rift and drift sections during Lower and Upper Cretaceous, and Miocene sequences.